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EXAMINER
MARCONTONI, F

ART UNIT PAPER NUMBER
1755 46

DATE MAILED: 10/25/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/481,988

Applicant(s)

Bruinsma et al.

Examiner

Paul Marcantoni

Group Art Unit

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—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 8/23/01
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-27, 40, 41, 58-60, 69-71, 78-88, 90-95, 98 & 109-121 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 1-27, 40-41, 58-60, 70, 71, 78-84, 86-88, 90-95, & 109-115 is/are allowed.
- ☒ Claim(s) 69, 85, 98, & 116-121 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____.

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of References Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

Applicant's arguments filed 8/23/01 have been fully considered but they are not persuasive.

Allowed Claims:

Claims 1-27 were previously allowed.

Claims 40,41, 58-60, 70, 71, 78-84, 86-88, 90-95, and 109-115 are now allowable.

Rejections:

The applicants amendment and addition of new claims 116-121 necessitated the following grounds of rejection.

Claims 116-121 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. The terms "An improved" is improper and vague in the preamble. Deletion of these terms and insertion of —A—is advised.

Claims 69, 85, 98, and 116-121 are rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the now claimed invention.

The terms ammonium cationic surfactant is supported by the original disclosure in column 7. However bromide or chloride alone is not supported by the specification in claims 69 and 98. The applicants only have support for alkyl triethylammonium chloride or bromide surfactants with different chain lengths (see column 7, lines 45-52).

Further, the limitation "or their combination" is not supported by the original disclosure and is therefore *new matter*.

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Claim 85 still contains new matter. Applicants do not have support for all catalysts any catalyst but only have support for acid catalysts.

Claim 116 contains new matter. The term "a solvent" is new matter not supported by the original disclosure. Applicants have support for either an aqueous solvent (as set forth in their earlier Bruinsma et al. US Patent No. 5,922,299) or possibly a combination of water and ethanol or water and alcohol (See Examples 1 and 2 of Bruinsma et al. as well as this patent's claims 6-7). It would appear this is the solvent for the silica precursor solution. However, applicants do not have the support to claim the usage of *any* solvent by their present language including only organic solvents. Applicants would appear to only have support for an aqueous solvent (water only) or a solvent which is a combination of water and ethanol or "water and alcohol" (Bruinsma patent claim 6).

Also, in claim 116, the use of a a specific surfactant would appear to be a required component for making their templated mesoporous material. The applicants' invention would not appear to support not using or omitting the use of a surfactant in their original disclosure. In particular, an ammonium cationic surfactant or an *alkyl triethylammonium* chloride or bromide surfactants with different chain lengths. Varying alkyl chain length permits control of the pore diameter (C12, C14, C16, C18) wherein shorter alkyl chain lengths produce smaller diameter pores (column 7, lines 45-52).

The applicants also omit the use of an acid (catalyst) in claim 116 which would appear to be required for their invention. It would appear that HCl is an acid catalyst and it is used in all examples so it would appear to be a critical component in their method.

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This omission of an acid catalyst in claim 116 would appear to be new matter absent a showing from the original disclosure that its usage is not mandatory.

Claim 117 contains new matter also. The term "solvent" again would not appear supportedⁱⁿ the original disclosure. Applicants do not indicate any statement to the effect that *any* solvent may be used but do teach an aqueous solvent in their claims and in their examples a solvent which is a combination of water and ethanol. The disclosure does not support any other solvents. There is no statement to the effect that any type of solvent may be used nor is there an original broad claim to indicate support for any solvent.

Claim 117 also omits the use of an acid catalyst which would appear to be a critical component in their claimed method and thus its omission is new matter.

Claim 118 contains new matter. The term "solvent" alone is not supported by the original disclosure for the reasons stated above. The term "surfactant" alone in claim 118 is also new matter since applicants have support for ammonium cationic surfactants or an *alkyl triethylammonium* chloride or bromide surfactants with different chain lengths.

Claim 118 also omits the use of an acid catalyst which would appear to be a critical component in their claimed method and thus its omission is new matter.

Claim 119 contains new matter. The term "solvent" alone is not supported by the original disclosure for the reasons stated above. The term "a surfactant" is new matter. Applicants only have support for ammonium cationic surfactants or an *alkyl triethylammonium* chloride or bromide surfactants with different chain lengths.

Claim 119 also omits the use of an acid catalyst which would appear to be a critical component in their claimed method and thus its omission is new matter

Claims 120 and 121 contain new matter. The term "solvent" alone is not supported by the original disclosure for the reasons stated above.

Claims 120 and 121 would appear to omit the use of both a surfactant (specifically, ammonium cationic surfactants or an *alkyl triethylammonium* chloride or bromide surfactants with different chain lengths) and an acid catalyst which are both critical components of their inventive process. Omission of these components would appear to be new matter.

Note these points regarding new matter are representative of all newly submitted claims 116-121.

Response:

The applicants indicate they have support for the use of any surfactant or all known surfactants at the time of applicants' invention. The examiner acknowledges applicants' insertion of specific surfactants such as ammonium cationic surfactants in existing claims which are supported by their original disclosure. These claims have been allowed unless they contained another component that was found to be new matter.

Applicants argue that their summary does not mention a cationic surfactant and any reference to a catalyst is as a product of the process, not part of the solution. In rebuttal, the applicants did not originally disclosure does not support only "a surfactant" but is limited to ammonium cationic surfactant. Applicants are entitled to broaden their

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claims in a re-issue application as long as the re-issue application is filed within 2 years of the patent date. That they have done. However, applicants are not entitled to support for subject matter which is not supported by their original disclosure in either a regular application or a re-issue application. Unsupported subject matter is new matter in both applications.

Applicants original specification contains no statement indicating that any surfactant can be used for their invention. It would appear that in all cases in their examples only ammonium cationic surfactants were used to obtain their desired results. Further, applicants only mention the specific type of bromide or chloride surfactants mentioned in their specification body as useful to the instant invention. It would appear be improper to necessarily infer that any surfactant can be used satisfactorily to obtain the applicants desired results. It is quite possible that the use of an different chemical surfactant might react with some of their starting components and have a detrimental effect on their desired result.

Further, the applicants are referred to their own examples regarding the use of a catalyst. They have repeated statements that chemistry (ie it is assumed catalyst and surfactant) is not part of the solution. The examiner disagrees as both surfactants and catalysts (acid) are used in all examples. They would thus appear to be part of the solution. HCl (acid catalyst) would appear to be used in every example and thus would appear to be a critical component of their invention. It was also a critical component in their original patent (See Bruinsma patent claim 1). It is unclear why it is now not a critical component or that it may be omitted from their process. It is believed to be "part

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of the solution" as applicants state since it is used in what would appear to be all examples.

Applicants have support for aqueous solvent (which was originally claimed) and this can refer to water alone as the solvent. Further, applicants have support for a combination of water and ethanol or water and alcohol but not organic solvents or any solvents which is an enlargement of scope and unsupported by the original disclosure. The support for this combination solvent mixture is supported by their examples. Applicants do not have support for *any* solvent except those in their examples and in their original disclosure (which is water, water/ethanol, or water/alcohol as solvent). Applicants do not provide a statement to the effect that any solvent may be used for their invention in their original disclosure. One of ordinary skill in the art is left with the claims and examples from the applicants' original disclosure as guidance to determine what solvents can be used in the instant invention. The same holds true for surfactants, catalysts and other critical ingredients used in the instantly claimed process.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is (703)-308-1196. The examiner can normally be reached on 4-10 Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-305-3599 for regular communications and (703)-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

October 24, 2001



**PAUL MARCANTONI
PRIMARY EXAMINER
GROUP 1400**